

26. Rocky Tall-Shrublands Ecological Series

Table 26-1. Full names and short names for the ecological types in the Rocky Shrublands Ecological Series.			
Ecological Type		Plant Association Code	Short Name
Code	Name		
SA7	Ocean-spray-common juniper-shrubby cinquefoil-skunkbrush-wax currant-raspberry-Extremely rocky	HODI-JUCO6-PEFL15-RHART-RICE-RUID	Tall shrublands-Extremely rocky

This “Rocky Tall-Shrublands Series” is not a series in the usual sense, for two reasons. First, it describes sites where vegetation is never dominant, rather geological processes and gravity are dominant. Second, it has been impossible to choose a name based on one or a few plant species. However, there is a high degree of similarity between the sites and their management, so they are described here as a “series” to ensure completeness of ecological or vegetation mapping based on this classification.

This series includes the *Juniperus communis* ssp. *alpina* Series, *Pentaphylloides floribunda* Series, *Rubus idaeus* ssp. *melanolasius* Series, *Heuchera parvifolia* Series, *Holodiscus dumosus* Series, *Ribes cereum* Series, and *Rhus aromatica* ssp. *trilobata* Series of Komárková (1986), and seems to be related to the *Elymus ambiguus* Series of Hess (1981).

Sites of this series occupy rocky cliffs, breaks, and talus slopes on the sides of ridges and in canyons. Sites are very dry. Rocks and gravity are really the dominant forces in the ecosystem, not vegetation, which is poorly defined and tends to be opportunistic.

Map units are a wide variety of shapes and sizes, sometimes isodiametric, and these sites are easily interpreted from aerial photographs under stereo.

Vegetation, Climate, Soils

One or more of a long list of shrub and grass species adapted to these harsh environments is present at any particular site.

I agree with Komárková (1986) that these are the “natural climax” sites for shrubby cinquefoil (PEFL15), from which shrubby cinquefoil has invaded down into meadows and riparian areas as they have dried out.

Range and Wildlife Management

There is little forage produced on these sites, and they are steep and rocky, so their value to livestock is little to none.

The major value of these sites in the UGB is as habitat for bighorn sheep. Sites of the same rocky, sparse-shrublands type we have in the UGB are an important component of low-elevation, summer-lambing range for bighorn sheep west of Saguache near the UGB. These sites comprise the steepest and rockiest parts of the summer-lambing range where bighorn sheep stay in the spring and summer months. Shepherd (1975) observed that “The numerous trails, beds, and droppings present suggest that this is probably the high-use area in this part of their range. [Bighorn] sheep use is so heavy that it has considerably affected the vegetation and physiognomy of the habitat.”

Ocean-spray (*Holodiscus dumosus*) is the only plant in these sites that figures to a large extent in bighorn diets, but these shrubs are often heavily browsed, and other plant species are heavily used in these sites (Shepherd 1975).

Some sites are used by elk, less often by deer, as viewpoints.

Fire Management

Prescribed fire is a recommended method for regenerating depleted shrub populations and for increasing cover of herbaceous plants.

Fire will carry in denser stands, or it may be possible to run a fire from adjacent, more flammable sites into these. Otherwise, these sites can function as fire breaks. Insects and diseases are not documented for this series.

Recreation, Roads & Trails, Scenery

Sites of this series are not suitable for roads and trails unless all other options have been exhausted. Roads and trails are extremely costly to build, but very stable. Sites are also generally unsuitable for developed or dispersed recreation, though a few sites may have steep cliffs that attract rock climbers. Revegetation will be seldom needed. There is so little soil requiring management.

Table 26-2. Characteristics of Ecological Types within Ecological Series 26 in the Upper Gunnison Basin. Numbers are shown in form Average (Minimum-Maximum)								
Code Short Name	No. Samples	Elevation, ft	Avg. Aspect, °M (r) Slope, %	Soil Coarse, %	Depth, cm Mollic, cm	Surface: Coarse, % Bare, %	Cover, %: Trees Shrubs Graminoids Forbs	Total Live Cover, % No. Species TLC/NS, %
SA7 Tall shrublands– Extremely rocky	9	10,028 (9,280-11,800)	161 (0.33) 72 (36-214)	*	28 0	61 (12-98) 5 (1-8)	0 (0-0) 46 (5-92) 19 (1-76) 14 (6-33)	79.3 (17.0-132.9) 24 (16-41) 3.5 (.8-7.0)

*. Not sampled.

SA7	TALL SHRUBLANDS–EXTREMELY ROCKY Ocean-spray-common juniper-shrubby cinquefoil- skunkbrush-wax currant-raspberry–Extremely rocky	HODI-JUCO6-PEFL15- RHART-RICE-RUID
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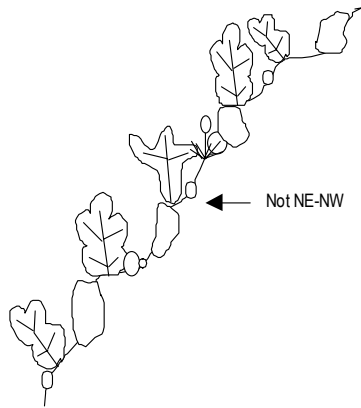


Figure 26-1. Cross-section of vegetation structure of *Tall shrublands–Extremely rocky*.

Tall shrublands–Extremely rocky is an uncommon type on extremely rocky talus slopes and rockfalls. *Tall shrublands–Extremely rocky* is not determined by vegetation or climate, but rather by substrate, particle size, and exposure. Vegetation in *Tall shrublands–Extremely rocky* is neither consistent or characteristic, nor is it the dominant feature. A variety of tall shrubs occupy these sites in very sparse stands; some of these

shrubs include ocean-spray (HODI), common juniper (JUCO6), shrubby cinquefoil (PEFL15), skunkbrush (RHART), wax currant (RICE), and raspberry (RUID). See Table 26-5 for common species names and codes. These sites do not have soil in the usual sense of the word, so no soil samples have been taken. It has been impossible to define community types here, because vegetation is not dominant.

Summary of Ecological Type Characteristics

1. Explanation of symbols in Appendix A. Percentages in [brackets] indicate the percentage of plots sampled that have that characteristic.

NUMBER OF. SAMPLES	9, soil descriptions from none (total 9)
ELEVATION	10,028 ft (9,280-11,800 ft); 3,056 m (2,825-3,600 m)
ASPECT	Usually southerly
LITHOLOGY	Usually hard rock, such as Granite, Welded Tuff, or Gneiss
FORMATIONS ¹	Xg, Tmi, Taf, Xfh
LANDFORMS	Mostly rockslides
SLOPE POSITIONS	Backslopes and lower backslopes
SLOPE SHAPES	Linear [56%] to convex [44%] horizontally, All linear vertically.
SLOPE ANGLE	72% (36-214%), always above the angle of repose for the particle sizes present
COARSE FRAGMENTS	61% (12-98%) cover on surface
TOTAL LIVE COVER	79.3% (17-132%)
NUMBER OF SPECIES	24 (16-41)
TOTAL LIVE COVER/NO. SPECIES	3.5 (0.9-7.0)
WATER	No permanent water on or near sites

Community Type Description

A *Mixed Rocky Tall Shrublands* is the mixed community including all nine plots in this type.

Two plots have conspicuous ocean-spray (HODI), one with wax currant (RICE), and the other with Thurber fescue (FETH).

Two plots have conspicuous common juniper (JUCO6).

One plot has conspicuous shrubby cinquefoil (PEFL15).

One plot has conspicuous skunkbrush (RHART).

One plot has conspicuous wax currant.

One plot has conspicuous red raspberry (RUID).

One plot has ocean spray-currant sparse to very sparse.

Table 26-3. Community types within *Tall shrublands-Extremely rocky*.

Community Type	No. samples	Elevation, ft Slope, %	Coarseness, % Depth, cm Mollic Depth, cm	Surface Coarse, % Bare, % Seral Stage	Layer Height, m Lr	Avg Layer Cvr % Cover, %: Trees Shrubs Graminoids Forbs	No. Species Total Live Cover, % TLC/NS, %	Prod. ¹ , lb/ac/yr Shrubs Gramin. Forbs	Obstruct'n %: 1.5-2.0 m 1.0-1.5 m 0.5-1.0 m 0.0-0.5 m Total<2m
A. Mixed; whole E. T.	9	10,028 (9,280-11,800) 72.0 (36-214)	* 28 0 (0-0)	61 (12-98) 5 (1-8)	*	0 (0-0) 46 (5-92) 19 (1-76) 14 (6-33)	24 (16-41) 79 (17-133) 3.5 (.8-7.0)	47-838 4-672 11-149	*

*. Unknown: measurements were not taken in this CT.

Table 26-4. Resource Values for *Tall shrublands-Extremely rocky*. Resource values were calculated from the numbers in Table 26-3, relative to the whole UGB.

The numbers in this table can be translated: 0 = Very Low, 1 = Low, 2 = Moderately Low, 3 = Moderate, 4 = Moderately High, 5 = High, and 6 = Very High.

Community Type	
Resource Value	A
Potential Cattle Forage Production	0-1
Grazing Suitability	ns ¹
Wetland	No
Riparian Area	No
Developed Recreation	ns ¹
Dispersed Recreation	ns ¹
Scenic	3-4
Road & Trail Stability	4-5
Construction Suitability	ns ¹
Deer & Elk Hiding Cover	2-3
Deer & Elk Forage & Browse	2-3
Need for Watershed Protection	0
Soil Stability	5-6
Risk of Soil Loss-Natural	0
Risk of Soil Loss-Management	0
Risk of Permanent Depletion-Range	0
Risk of Permanent Depletion-Wildlife	1
Resource Cost of Management	1
Cost of Rehabilitation	6

1. Steep, far from water. ns = Not suitable.

Table 26-5. Full association table, showing all species and all plots in *Tall shrublands–Extremely rocky*. Ccv = Characteristic Cover, Con = Constasy, Avc = Average Cover. These are related using the formula $Avc = Ccv \cdot 100\% / Con$.

Sample	820	820	820	820	820	820	820	820	820								
Elevation, ft	047	102	104	116	117	135	137	163	166								
Aspect	118001146010920	9345	9280	9365	9360	9440											
Code	Species Name	Slope →	58%	47%	36%	47%	214%	47%	47%	100%	53%	Avc	Ccv (Con)	N	Common Name		
TREES																	
----- Canopy Cover -----																	
PIFL2	Pinus flexilis		—	—	—	—	—	0.4	—	—	—	0.0	0.4 (11)	1	limber pine		
SHRUBS																	
BRGR	Brickellia grandiflora		—	—	—	—	—	0.5	0.5	—	—	0.1	0.5 (22)	2	tassel-flower brickell bush		
HODI	Holodiscus discolor		—	—	—	35.0	1.0	—	18.0	—	—	6.0	18.0 (33)	3	ocean-spray		
JUC06	Juniperus communis		80.0	3.0	—	4.0	—	88.0	—	—	—	19.4	43.8 (44)	4	common juniper		
PEFL15	Pentaphylloides floribunda		—	55.0	—	6.0	—	1.0	—	—	—	6.9	20.7 (33)	3	shrubby cinquefoil		
RHART	Rhus aromatica ssp. trilobata		—	—	—	—	—	—	—	40.0	—	4.4	40.0 (11)	1	skunkbrush		
RICE	Ribes cereum		—	—	—	10.0	—	—	—	—	30.0	4.4	20.0 (22)	2	wax currant		
RIIN2	Ribes inerme		—	—	—	—	1.0	2.0	—	—	—	0.3	1.5 (22)	2	whitestem currant		
RIMO2	Ribes montigenum		3.0	3.0	—	—	—	—	3.0	—	—	1.0	3.0 (33)	3	mountain gooseberry		
ROWO	Rosa woodsii		—	—	—	—	—	—	15.0	—	—	1.7	15.0 (11)	1	Woods rose		
RUID	Rubus idaeus		—	—	12.0	0.2	3.0	0.2	2.0	—	—	1.9	3.5 (56)	5	American red raspberry		
GRAMINOIDS																	
AGROS2	Agrostis		—	—	1.0	—	—	—	—	—	—	0.1	1.0 (11)	1	bentgrass		
AGSC5	Agrostis scabra		—	—	—	—	—	—	2.0	—	—	0.2	2.0 (11)	1	rough bentgrass		
BRPO5	Bromopsis porteri		1.0	—	—	—	—	—	—	—	—	0.1	1.0 (11)	1	nodding brome		
BRPU9	Bromopsis pumpelliana		—	—	—	—	—	—	2.0	2.0	—	0.4	2.0 (22)	2	Pumpelly brome		
CAPU	Calamagrostis purpurascens		—	2.0	—	—	—	—	—	—	—	0.2	2.0 (11)	1	purple pinegrass		
CAAR13	Carex arapahoensis		—	6.0	—	—	—	—	—	—	—	0.7	6.0 (11)	1	Arapaho sedge		
CACH21	Carex chalciolepis		—	—	0.2	—	—	—	—	—	—	0.0	0.2 (11)	1	Holm sedge		
CAEL3	Carex elynoides		—	2.0	—	—	—	—	—	—	—	0.2	2.0 (11)	1	Kobresia-like sedge		
CAFO3	Carex foenea		—	—	0.2	—	—	—	—	—	—	0.0	0.2 (11)	1	silvertop sedge		
CAGE	Carex geophila		—	—	—	—	—	—	2.0	—	—	0.2	2.0 (11)	1	dryland sedge		
CAGE2	Carex geyeri		—	—	—	8.0	0.2	6.0	6.0	—	0.2	2.3	4.1 (56)	5	elk sedge		
CHGR15	Chondrosum gracile		—	—	—	—	—	—	—	2.0	—	0.2	2.0 (11)	1	blue grama		
ELEL5	Elymus elymoides		—	—	1.0	—	—	—	—	—	0.2	0.1	0.6 (22)	2	bottlebrush squirreltail		
ELLA3	Elymus lanceolatus		—	3.0	—	—	—	—	—	—	—	0.3	3.0 (11)	1	Montana wheatgrass		
ELTR7	Elymus trachycaulus		1.0	3.0	—	2.0	0.2	—	—	—	—	0.7	1.5 (44)	4	slender wheatgrass		
FEAR2	Festuca arizonica		—	—	—	—	—	—	—	3.0	—	0.3	3.0 (11)	1	Arizona fescue		
FEBRC	Festuca brachyphylla ssp. coloradensis		—	1.0	1.0	—	—	—	—	—	—	0.2	1.0 (22)	2	alpine fescue		
FEID	Festuca idahoensis		—	—	—	—	—	—	—	—	2.0	0.2	2.0 (11)	1	Idaho fescue		
FETH	Festuca thurberi		2.0	—	0.2	—	—	4.0	60.0	—	—	7.4	16.5 (44)	4	Thurber fescue		
KOMA	Koeleria macrantha		—	—	—	0.2	0.2	2.0	6.0	—	1.0	1.0	1.9 (56)	5	prairie junegrass		
MUMO	Muhlenbergia montana		—	—	—	2.0	—	—	—	18.0	1.0	2.3	7.0 (33)	3	mountain muhly		
POARG	Poa arctica ssp. grayana		—	0.2	—	—	—	—	—	—	—	0.0	0.2 (11)	1	arctic bluegrass		
POFE	Poa fendleriana		1.0	—	0.5	—	—	—	—	—	—	0.2	0.8 (22)	2	muttongrass		
POGL	Poa glauca		—	3.0	0.2	—	—	—	—	—	—	0.4	1.6 (22)	2	Greenland bluegrass		
PONEI2	Poa nemoralis ssp. interior		—	—	—	0.2	0.2	—	—	—	—	0.0	0.2 (22)	2	interior bluegrass		
TRSP2	Trisetum spicatum		0.2	3.0	2.0	—	—	—	—	—	—	0.6	1.7 (33)	3	spike trisetum		
FORBS																	
ACLA5	Achillea lanulosa		—	2.0	0.2	3.0	0.2	2.0	4.0	—	—	1.3	1.9 (67)	6	western yarrow		
ACROT	Acomastylis rossii ssp. turbinata		—	0.2	—	—	—	—	—	—	—	0.0	0.2 (11)	1	alpine avens		
ADLE	Adenolinum lewisii		0.2	—	—	—	—	—	—	—	—	0.0	0.2 (11)	1	blue flax		
AMLA6	Amerosedum lanceolatum		—	0.2	—	—	—	—	—	—	—	0.0	0.2 (11)	1	yellow stonecrop		
ANSE4	Androsace septentrionalis		—	0.2	—	—	—	—	—	—	—	0.0	0.2 (11)	1	northern rock-jasmine		
ANPA	Anemone parviflora		—	0.2	—	—	—	—	—	—	—	0.0	0.2 (11)	1	arctic anemone		
ANRO2	Antennaria rosea		—	—	—	—	—	0.2	—	—	—	0.0	0.2 (11)	1	rose pussytoes		
AQCO	Aquilegia coerulea		—	6.0	—	—	—	—	—	—	—	0.7	6.0 (11)	1	Colorado columbine		
ARAN7	Argentina anserina		—	—	—	—	—	—	—	5.0	—	0.6	5.0 (11)	1	silverweed		
ARCO9	Arnica cordifolia		—	0.4	—	—	—	—	—	—	—	0.0	0.4 (11)	1	heartleaf arnica		
ARFR4	Artemisia frigida		—	—	—	0.2	1.0	—	—	10.0	4.0	1.7	3.8 (44)	4	fringed sagewort		
BODR	Boechera drummondii		—	—	—	—	—	—	—	—	0.2	0.0	0.2 (11)	1	false-arabis		
BORE6	Boechera retrofracta		—	—	—	0.2	—	—	—	0.2	—	0.0	0.2 (22)	2	false-arabis		
CARO2	Campanula rotundifolia		0.2	—	—	—	—	1.0	—	—	—	0.1	0.6 (22)	2	common harebell		
CHDA2	Chamerion danielsii		2.0	—	—	—	—	—	—	—	—	0.2	2.0 (11)	1	fireweed		
CIAU3	Ciliaria austromontana		—	8.0	0.2	—	0.4	0.5	—	—	—	1.0	2.3 (44)	4	spotted saxifrage		
CISC3	Cirsium scopulorum		—	—	1.0	—	—	—	—	—	—	0.1	1.0 (11)	1	Alpine thistle		
COSC2	Conioselinum scopulorum		0.2	—	—	—	—	—	—	—	—	0.0	0.2 (11)	1	Rocky Mtn. hemlock-parsley		

Table 26-5. (Continued)

	Sample	820 047	820 102	820 104	820 116	820 117	820 135	820 137	820 163	820 166							
	Elevation, ft	11800	11460	10920	9345	9280	9280	9365	9360	9440							
	Aspect	E	W	W	SE	SE	SW	SW	E	E							
Code	Species Name	Slope ->	58%	47%	36%	47%	214%	47%	47%	100%	53%	Avc	Ccv (Con)	N	Common Name		
FORBS (Continued)																	
DEIN5	Descurainia incana	-	-	-	1.0	-	-	-	1.0	0.2	0.2	0.7 (33)	3	Richardson tansy mustard			
DRABA	Draba	-	-	-	-	0.2	-	-	-	-	0.0	0.2 (11)	1	whitlow wort			
ERIGE2	Erigeron	-	-	-	-	-	0.2	-	-	-	0.0	0.2 (11)	1	fleabane			
ERPI6	Erigeron pinnatisectus	-	0.2	-	-	-	-	-	-	-	0.0	0.2 (11)	1	pinnate fleabane			
ERSI3	Erigeron simplex	-	-	1.0	-	-	-	-	-	-	0.1	1.0 (11)	1	one-stemmed fleabane			
ERSP4	Erigeron speciosus	2.0	-	-	-	-	-	-	-	-	0.2	2.0 (11)	1	Oregon fleabane			
ERCO11	Eriogonum coloradense	0.4	-	-	-	-	-	-	-	-	0.0	0.4 (11)	1	Colorado buckwheat			
ERSU11	Eriogonum subalpinum	-	-	-	-	-	2.0	12.0	-	-	1.6	7.0 (22)	2	sulfurflower			
ERUMA3	Eriogonum umbellatum var. aureum	0.2	-	-	-	-	-	-	-	-	0.0	0.2 (11)	1	sulfur buckwheat			
FRV1	Fragaria virginiana	-	0.2	-	-	-	1.0	-	-	-	0.1	0.6 (22)	2	Virginia strawberry			
GASE6	Galium septentrionale	-	-	-	-	1.0	-	-	-	-	0.1	1.0 (11)	1	northern bedstraw			
GEB22	Gentianopsis barbellata	-	0.4	-	-	-	-	-	-	-	0.0	0.4 (11)	1	fringed gentian			
GECA3	Geranium caespitosum	-	-	-	-	-	-	-	-	0.2	0.0	0.2 (11)	1	Fremont geranium			
HEV14	Heterotheca villosa	0.2	-	2.0	-	2.0	6.0	2.0	-	-	1.4	2.4 (56)	5	hairy golden aster			
HEPA11	Heuchera parvifolia	-	1.0	-	-	4.0	-	-	-	-	0.6	2.5 (22)	2	littleleaf alumroot			
LARE	Lappula redowskii	-	-	-	-	-	-	-	-	0.2	0.0	0.2 (11)	1	beggar's tick			
LIHO2	Ligularia holmii	-	0.2	0.2	-	-	-	-	-	-	0.0	0.2 (22)	2	Holm's groundsel			
MADI9	Macronema discoideum	-	-	0.5	-	-	-	-	-	-	0.1	0.5 (11)	1	tansy-aster			
MELA3	Mertensia lanceolata	-	0.4	-	-	0.4	0.4	-	3.0	1.0	0.6	1.0 (56)	5	lanceleaf bluebells			
MIRH	Micranthes rhomboidea	-	0.4	-	-	-	-	-	-	-	0.0	0.4 (11)	1	diamond-leaf saxifrage			
NOMO2	Noccaea montana	-	0.2	-	-	-	-	-	-	-	0.0	0.2 (11)	1	candytuft			
ORAL	Oreoxis alpina	-	6.0	-	-	-	-	-	-	-	0.7	6.0 (11)	1	alpine-parsley			
OXDI3	Oxyria digyna	-	-	1.0	-	-	-	-	-	-	0.1	1.0 (11)	1	alpine sorrel			
PAWE4	Packera wernerifolia	-	0.2	-	-	-	0.2	-	-	-	0.0	0.2 (22)	2	groundsel			
PHHE2	Phacelia heterophylla	-	-	-	1.0	-	-	-	-	-	0.1	1.0 (11)	1	scorpion weed			
PHSE	Phacelia sericea	0.4	2.0	-	-	-	-	-	-	-	0.3	1.2 (22)	2	purple fringe			
POVI	Polemonium viscosum	-	-	1.0	-	-	-	-	-	-	0.1	1.0 (11)	1	sky pilot			
PODI2	Potentilla diversifolia	-	0.2	-	-	-	-	-	-	-	0.0	0.2 (11)	1	varileaf cinquefoil			
POHI6	Potentilla hippiana	-	-	-	-	-	-	0.2	-	-	0.0	0.2 (11)	1	horse cinquefoil			
POHO2	Potentilla hookeriana	1.0	-	-	-	-	-	-	-	-	0.1	1.0 (11)	1	Hooker's cinquefoil			
PSMO	Pseudocymopterus montanus	0.4	-	-	-	-	-	-	-	-	0.0	0.4 (11)	1	mountain parsely			
SEAT	Senecio atratus	-	-	0.2	-	-	-	-	-	-	0.0	0.2 (11)	1	black groundsel			
SEFR3	Senecio fremontii	-	-	0.2	-	-	-	-	-	-	0.0	0.2 (11)	1	Fremont groundsel			
SEIN2	Senecio integerrimus	-	-	-	0.2	-	-	-	-	-	0.0	0.2 (11)	1	lamb's-tongue groundsel			
SIPR	Sibbaldia procumbens	-	0.2	-	-	-	-	-	-	-	0.0	0.2 (11)	1	creeping sibbaldia			
SOMU	Solidago multiradiata	-	0.2	-	-	-	-	-	-	-	0.0	0.2 (11)	1	mountain goldenrod			
STLO2	Stellaria longipes	-	0.2	-	-	-	-	-	-	-	0.0	0.2 (11)	1	long-stalked stitchwort			
TAOF	Taraxacum officinale	0.4	0.2	0.4	-	-	0.2	-	-	-	0.1	0.3 (44)	4	common dandelion			
THFE	Thalictrum fendleri	2.0	-	-	-	-	-	-	-	-	0.2	2.0 (11)	1	Fendler meadow-rue			
TRDA2	Trifolium dasyphyllum	-	4.0	-	-	-	-	-	-	-	0.4	4.0 (11)	1	whiproot clover			
VIAD	Viola adunca	-	-	-	-	-	0.2	0.2	-	-	0.0	0.2 (22)	2	hook violet			
VISO	Viola sororia	0.2	-	-	-	-	-	-	-	-	0.0	0.2 (11)	1	downy blue violet			
FERNS & FERN-ALLIES																	
ARFE5	Argyroschisma fendleri	-	-	-	-	-	-	-	0.2	-	0.0	0.2 (11)	1	Fendler falsecloak fern			
CRAC3	Cryptogramma acrostichoides	-	-	1.0	-	-	0.2	-	-	-	0.1	0.6 (22)	2	American rock brake			
CYFR2	Cystopteris fragilis	-	-	0.2	2.0	2.0	-	-	-	1.0	0.6	1.3 (44)	4	brittle fern			
GROUND COVER																	
.BARESO	bare soil	5.0	6.0	7.0	3.0	1.0	8.0	5.0	8.0	0.5	4.8	4.8 (100)	9	bare soil			
.LITTER	litter and duff	60.0	29.0	3.0	12.0	1.0	80.0	83.0	27.0	14.5	34.4	34.4 (100)	9	duff litter			
.ROCK	cover grav+cob+ston	35.0	65.0	90.0	85.0	98.0	12.0	12.0	65.0	85.0	60.8	60.8 (100)	9	grav+cob+ston cover			
.BRY	mosses + lichens on soil	4.0	3.0	2.0	1.0	2.0	10.0	3.0	3.0	1.0	3.2	3.2 (100)	9	on soil mosses + lichens			
Tree Cover, %		0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0							
Shrub Cover, %		83.0	61.0	12.0	55.2	5.0	91.7	38.5	40.0	30.0							
Graminoid Cover, %		5.2	23.2	6.3	12.4	0.8	12.0	76.0	27.0	4.4							
Forb Cover, %		9.8	33.4	8.9	5.6	9.2	14.1	18.4	19.2	5.8							
Total Live Cover, %		98.0	117.6	27.4	75.2	17.0	118.2	132.9	86.4	41.2							
No. Species		25	41	28	21	20	26	19	16	17							